

ABSTRACT

A combined signal S_{PC} in which a pre-pit signal is superposed on a wobble signal is generated based on a radial push-pull signal S_{PP} with a noise component having been removed therefrom. Based on the combined signal S_{PC} , a wobble signal S_{WB} with the phase θ_0 not having time fluctuation and a pre-pit signal S_{PD} are generated with the phases compared to each other, and then a phase adjustment signal S_{CNT} corresponding to a phase difference θ_e is generated. The phase differences θ_e are stored, and an average value θ_r thereof generated, the phase difference θ_e is compared to the average value θ_r , the phase 5 θ_0 is shifted according to only by the phase difference θ_e only when the phase difference θ_e is within the range of $(\theta_r \pm W)$, and then a wobble signal S_{WB} with the phase θ_1 synchronized to the pre-pit signal S_{PD} is generated.

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